D-1000

SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model
E Model
Tourist Model

Model Name Using Similar Mechanism	D-211
CD Mechanism Name	KSM-331AAN (S)

SPECIFICATIONS

System
Compact disc digital audio system
Laser diode properties
Material: GaAlAs
Wavelength: λ =780 nm
Emission duration: Continuous
Laser output: Less than 44.6 µW
(This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block.)
Error correction
Sony Super Strategy Cross Interleave Reed Solomon Code
D-A conversion
1-bit quartz time-axis control
Frequency response
20 Hz – 20,000 Hz $^{+0.5}_{-2}$ dB (speaker output)
20 Hz – 20,000 Hz $^{+1}_{-1.5}$ dB (headphones output)
(measured by EIAJ CP-307)
Output (at 6 V input level)
Speaker output (monaural)
Output level 0.5 V rms at 50 kilohms
Load impedance over 10 kilohms
Headphones (stereo minijack)
19 mW + 19 mW at 16 ohms

General

Power requirements
Supplied:
• DC IN 6 V jack accepts the Sony AC power adaptor for use on:

Where purchased	Operating voltage
European and Asian countries	220 – 230 V AC, 50 Hz
U.S.A., Canada, Central and South America	120 V AC, 60 Hz
Middle East	110 – 240 V AC, 50/60 Hz
United Kingdom, Australia	240 V AC, 50 Hz
Other countries	100 – 240 V AC, 50/60 Hz

Not supplied:
• DC 6 V four size AA (LR6) alkaline batteries
Dimensions
Approx. 218 × 132 × 32 mm (8 5/8 × 5 1/4 × 1 5/16 in.) (w/h/d) incl. projecting parts and controls
Mass
Approx. 500 g (17.8 oz.)
Approx. 600 g (21.2 oz.) including a disc and four alkaline batteries
Supplied accessory
AC power adaptor (1)

Design and specifications are subject to change without notice.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

COMPACT DISC COMPACT PLAYER

SONY®

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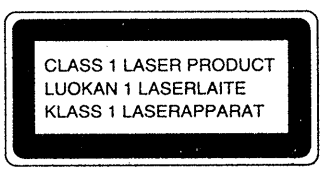
For the Customers in the United Kingdom

This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.



SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SECTION 1
SERVICING NOTES

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

Before Replacing the Optical Block

Please be sure to check thoroughly the parameters as par the "Optical Block Checking Procedures"(Part No.:9-960-027-11) issued separately before replacing the optical block.
Note and specifications required to check are given below.

- FOK output : IC601 ① pin
- S carve P-to-P value : 2.5Vp-p
  When checking FOK and S carve P-to-P value, remove the lead wire to disc motor and unsolder and open IC601 ① pin.
- Adjusted part for focus gain adjustment : RV502
- RF signal P-to-P value : 0.8 − 1.3Vp-p
- Traverse signal P-to-P value : 1.3Vp-p
- The grating holder can not repair.
- Adjusted part for tracking gain adjustment : RV504

Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270 ℃ during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

Notes on chip component replacement

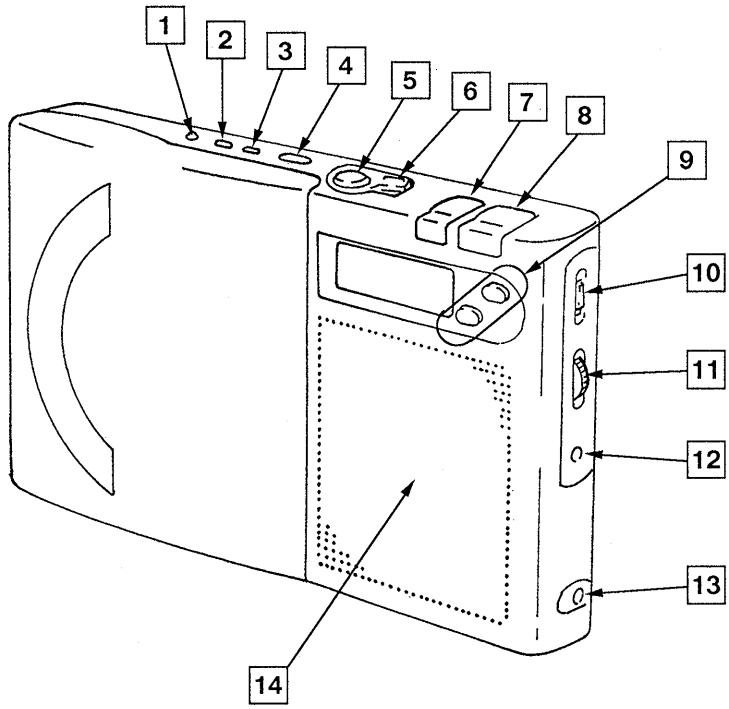
- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

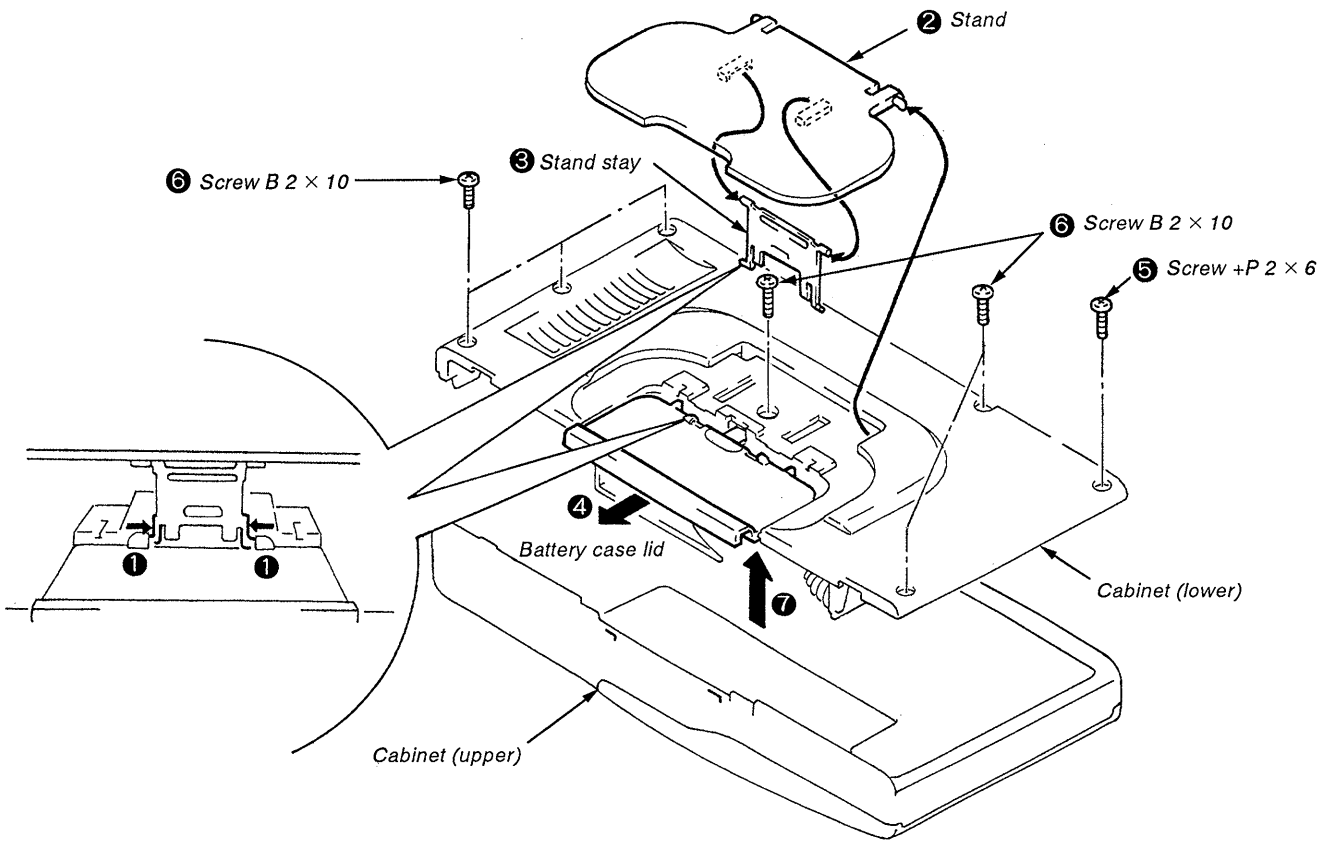
SECTION 2
GENERAL

LOCATION AND FUNCTION OF CONTROLS



1 CLOCK button
2 TIME button
3 TRACK button
4 OFF/STANDBY button
5 OPEN button
6 HOLD/OPEN LOCK button
7 ■ (STOP) button
8 ⏯ (PLAY/PAUSE) button
9 ⏭/⏮ (AMS SEARCH) button
⏭ (ADJUST −) button
⏮ (ADJUST+) button
10 PLAY MODE switch
11 VOLUME knob
12 HEADPHONE jack
13 DC IN jack
14 SPEAKER

SECTION 3
DISASSEMBLY



SECTION 4
SERVICING MODE

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe more than 30cm away from the objective lens.

Laser Diode Check Procedure

The laser diode on this set will not emit unless the top panel is closed and S802 (leaf SW type) is turned on. The laser diode will always emit even if focus search is not performed in service mode. The laser diode if checked using the current value which flows to the laser diode inside the optical pick-up.

Procedure 1 (service mode or normal operation)

Check the laser diode emission with the eye.

1. Open top panel.
2. S802 on as Fig. 1.
   (In service mode, this operation is not necessary.)
3. Observe the objective lens and confirm that the laser diode goes on about 2.5 seconds due to focus search. If it does not, APC circuit or the optical pick-up is defective.

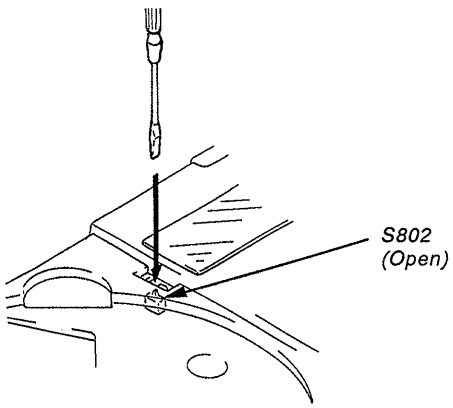


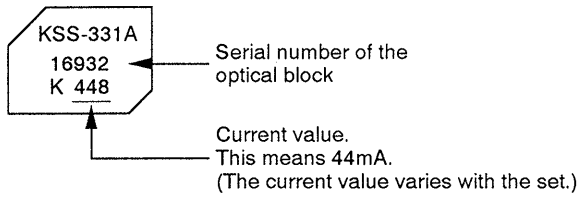
Fig. 1 Turning S802 on

Procedure 2 (service mode or normal operation)

Check by the current with flows in the laser diode.

1. Open the top panel.
2. Remove the main board and read the current value on the label affixed to the optical pick-up.

(Label on optical pick-up block)



3. Connect a VOM as shown in Fig. 2. (both side of R501:1 Ω)
4. Press the ▶II key.
5. Calculate the current by the VOM reading.
   VOM reading(V) ÷ 1 = current (A)
   ex. VOM reading = 44mV
   44 ÷ 1 = 44 (mA)
6. Confirm that the ammeter reading is within the range given below.
   value on label $^{+5}_{-11}$ mA(25 ℃)
   variation relative to temperature : 0.4mA / ℃
   (Current increases when temperature rises and decreases when it drops.)
   If the value is more than the range given, diode has deteriorated. If it is less, APC circuit or the optical pick-up is defective.

– Main board – (side A)

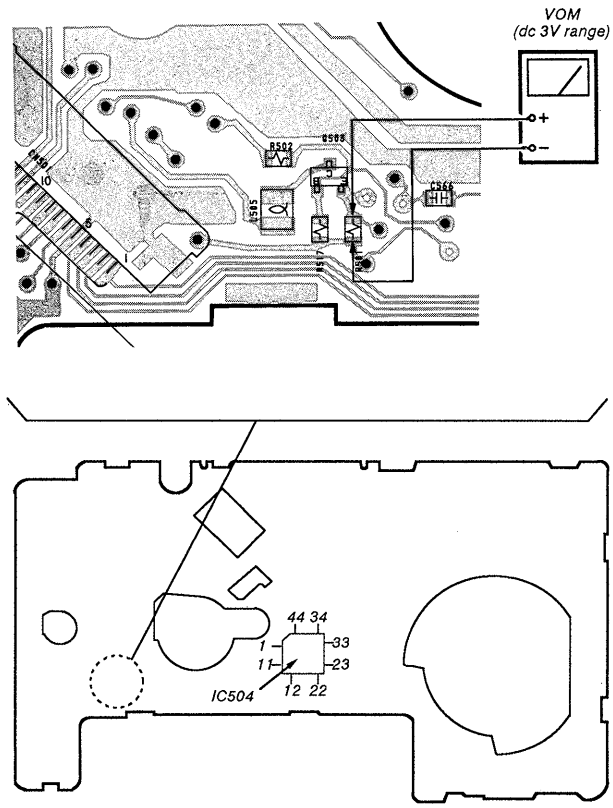
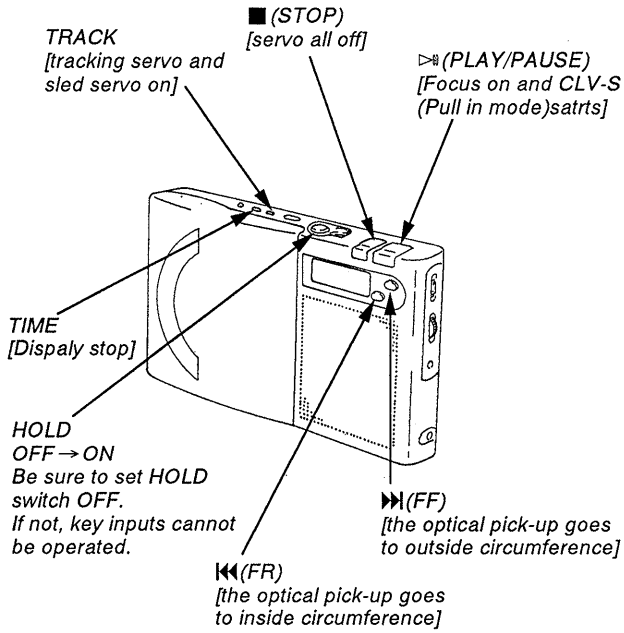


Fig. 2 VOM Connection

SERVICE MODE (service program)

This set has built-in service program in the microcomputer as usual sets.

The operation method of service program is explained below.



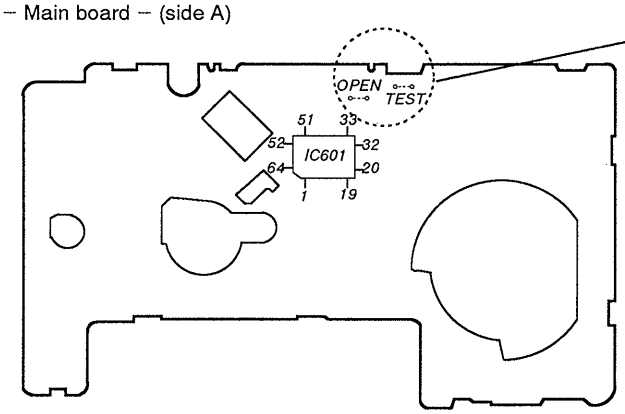
[ ] : Main operation in service mode
for details, refer to step 2.

Fig. 3 Key Positions

• Step 1 (Service Mode setting method)

1. Turn the HOLD switch to OFF with the external power supply not plugged in (no power applied to set).
2. Solder to connect the TEST terminal and the OPEN terminal (S802). (IC801 pin ⑭ (TEST) and pin ㊴ (S-DOOR) is grounded.)
3. Connect the external power source while pressing the ▶II key. After preforming the above procedures, the set is switched to service mode.

– Main board – (side A)



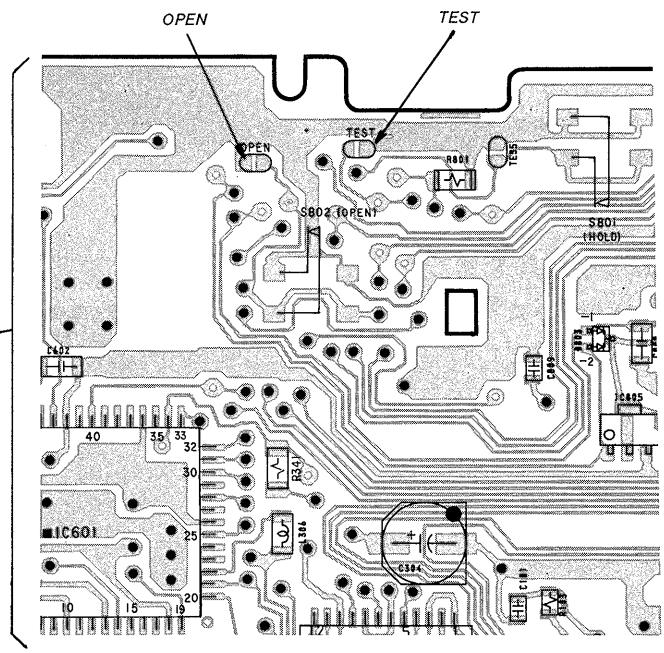
TEST terminal, OPEN terminal
Solder jumper for the service mode.
[After checking or adjusting in the service mode, be sure to remove this solder jumper.]

• Step 2 (Service Mode operation)

1. When service mode is set, the display will change 5 times, and those 5 changes will be repeated over and over.
   With this the LCD display should be present in service mode. Even if LCD dose not display, other operations will be performed.
2. When ⏭ or ⏮ key is pressed, the optical pick-up moves to the inside or outside circumference. Tracking servo and sled servo go off when this is done, so press TRACK key to turn on the tracking servo if necessary.
3. When TIME key is pressed, the display stops.
   When TIME key is released, the display continues to change. This allows check of each segment.
4. When ▶II key is pressed, CLV-S (pull-in mode) starts while performing focus search. When there is no disc installed, focus search is repeated several times while disc motor is rotating.
5. When TRACK key is pressed, tracking servo, sled servo and CLV-A (servo during PLAY) go ON.
6. When performing steps 4 and 5, the set starts to play. There is no muting in the service mode.
7. All servo (focus, tracking, sled and spindle) go off when ■ key is pressed. But disc motor continues rotating for a while by inertia.

• Step 3 (Service Mode release)

1. First be sure to unplug the external power supply, then remove the TEST terminal and the OPEN terminal solder jumper.
2. The set will now operated normally.



SECTION 5
ELECTRICAL ADJUSTMENTS

Notes on Adjustment

1. Perform adjustments in service mode.
   Be sure to release service mode after completing adjustment.
   (Refer to "Service Mode (service program)" on page 5.)
2. Perform adjustments in the order given.
3. Use YEDS-18 disc(part No. : 3-702-101-01)unless otherwise indicated.
4. Power supply voltage : DC 6V
   HOLD switch : OFF
   VOLUME knob : Minimum

PREPARATION

Put the set into service mode (See page 5.) and perform the following checks. Repair if there are any abnormalities.

• Sled Motor Check

1. Press the OPEN button and open the top panel.
2. Press the ⏭, ⏮ keys and make sure that the optical pick-up moves smoothly, without catching, from the inmost → outmost → inmost circumference.
   ⏭ : The optical pick-up moves outward
   ⏮ : The optical pick-up moves inward

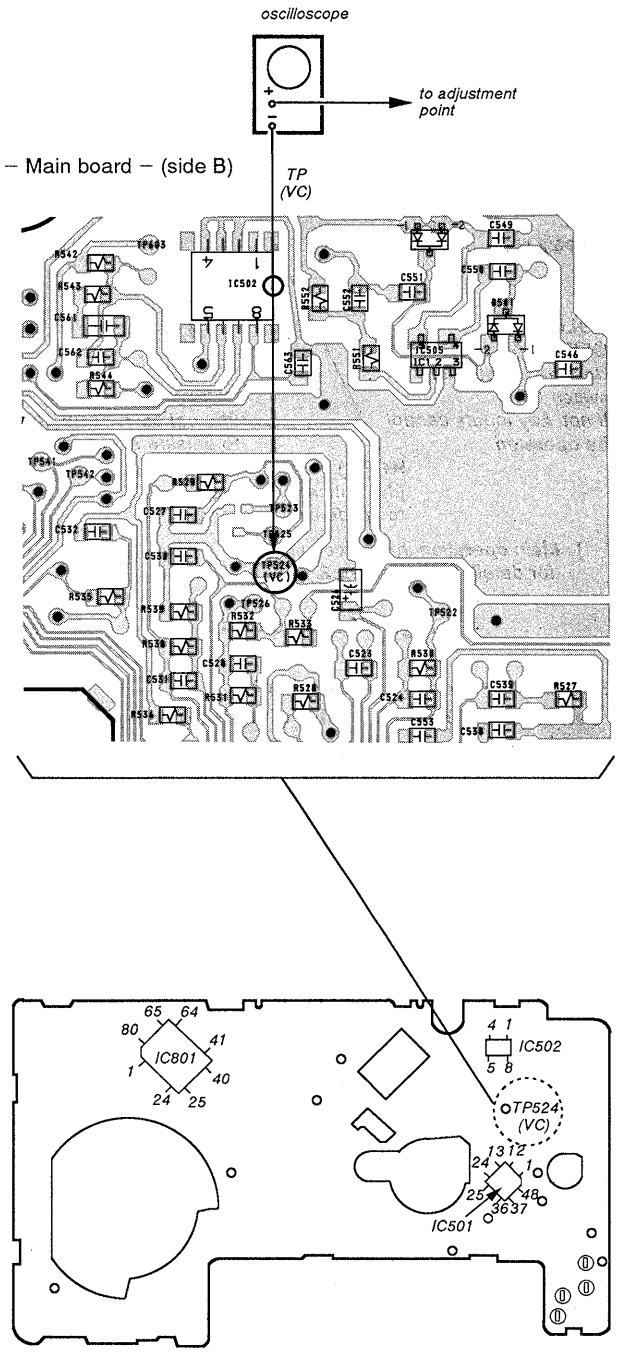
• Focus Search Check

1. Press the OPEN button and open the top panel.
2. Press the ⏯ key. (Focus search is performed continuously)
3. Observe the optical pick-up objective lens and check that it moves smoothly up and down with no catching or noises.
4. Press the ■ key.
   Check that focus search operation stops. If it does not, stop press the ■ key again longer than before.

VC (1/2Vcc) Connecting Point

FOCUS BIAS ADJUSTMENT
TRACKING BALANCE ADJUSTMENT

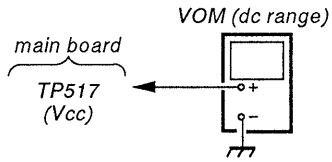
When the adjustments above are performed, connect the ⊖ side of oscilloscope to the point below.



+B Check

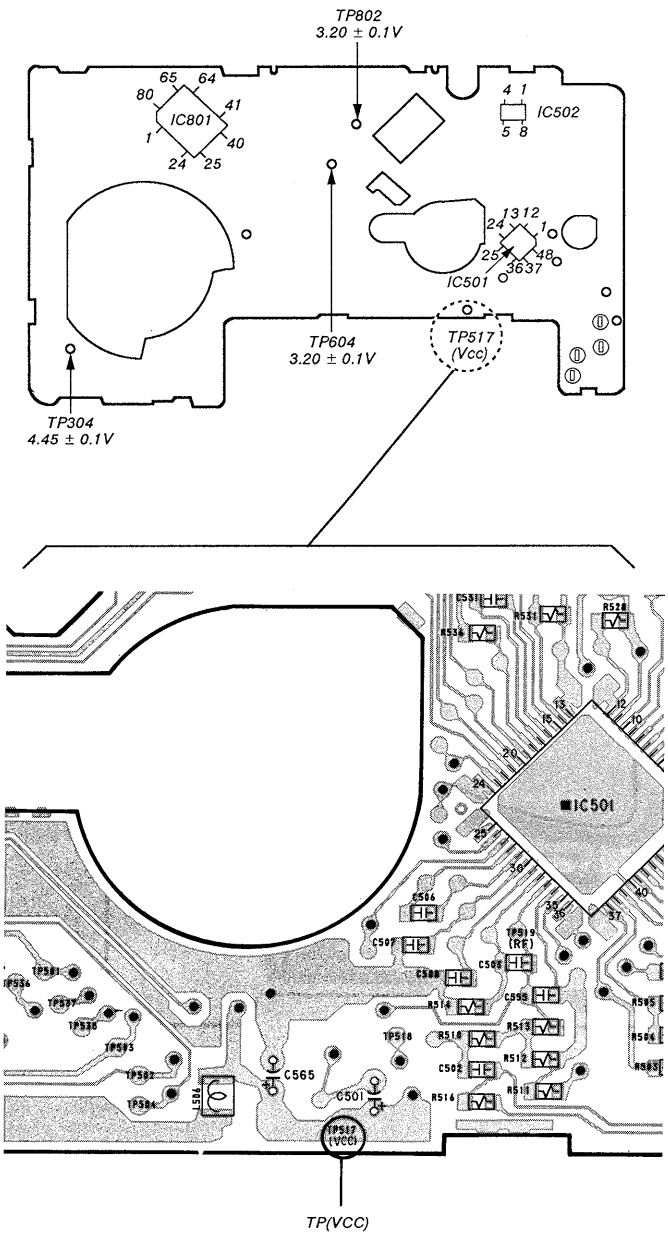
* Perform the +B check after applyig 5V from the battery terinal.

Check Procedure :



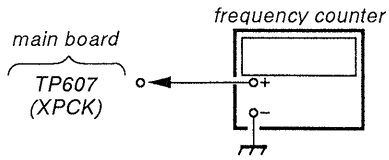
1. Connect the VOM to main board TP517 (Vcc).
2. Check that the VOM reading is 3.2 ± 0.1V.

Adjustment Location : Main board (side B)



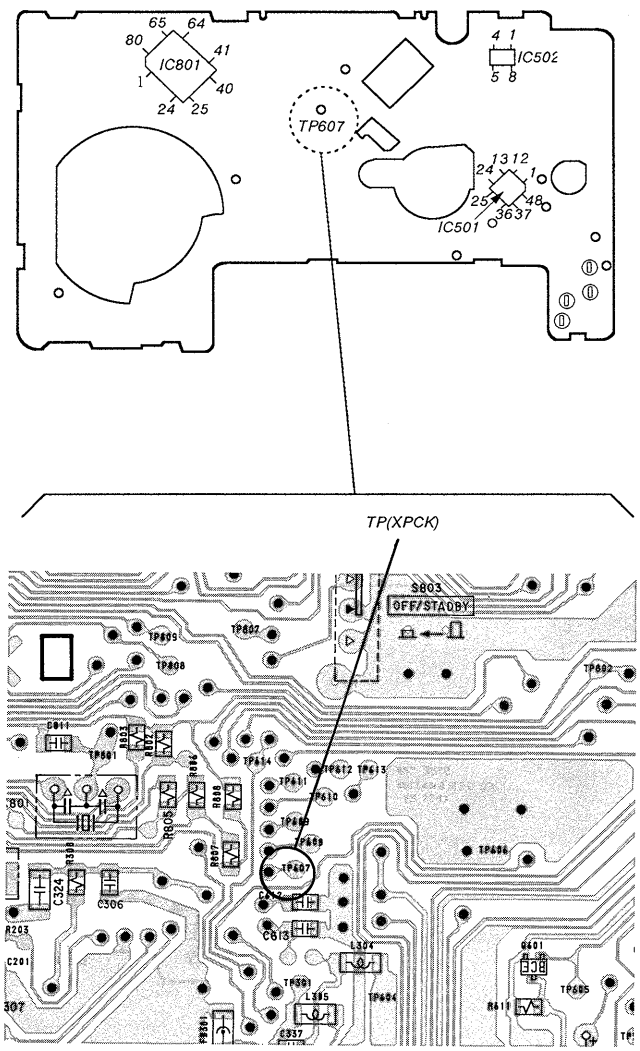
PLL Free Run Frequency Check

Check Procedure :



1. Connect a frequency counter to main board IC601 pin ㉕ test point TP (XPCK).
2. Put the set into service mode stop state (see page 5).
3. Check that the frequency counter reading is 4.3218 ± 0.01MHz.
4. After adjustment, release service mode (see page 5).

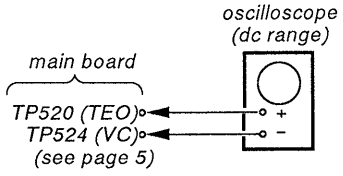
Check Location : Main board (side B)



Tracking Balance Adjustment

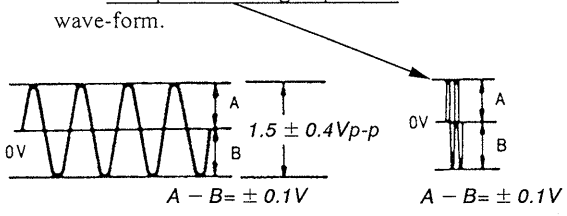
Conditions :
The set should be placed either horizontally.

Adjustment Procedure :



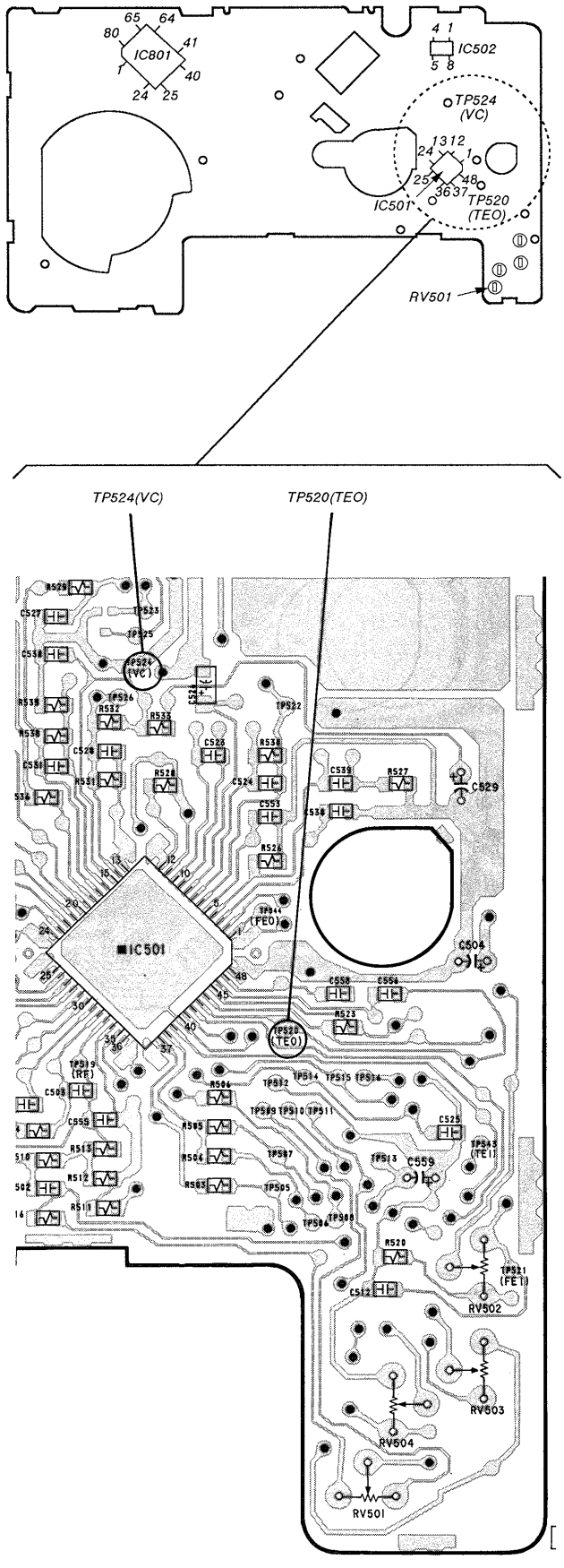
1. Connect the oscilloscope to main board TP520 (TEO).
2. Put the set into service mode stop state (See page 5).
3. Press the ⏭ and ⏮ keys to move the optical pick-up to the center.
4. Insert the disc (YEDS-18) and close the top panel.
5. Press the ⏯ key.
   (It will go from focus search to focus on, and CLV pull-in mode state. Tracking and sled are OFF.)
6. Adjust RV501 so that the oscilloscope wavaform is symmetrical on the top and bottom in relation to 0V.

Note : Take sweep time as long as possible to obtain best wave-form.



7. Press the ■ key to stop spindle motor from rotaing.
8. After adjustment, release service mode (see page 5).

Adjustment Location : Main board (side B)

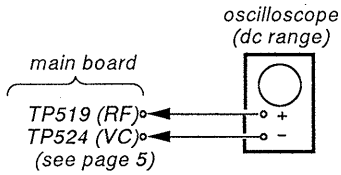


Focus Bias Adjustment

Conditions :

The set should be placed either horizontally.

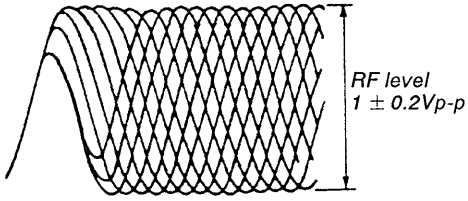
Adjustment Procedure :



1. Put the set into STOP state in service mode (See page 5).
2. Connect the oscilloscope to main board test point TP 519 (RF).
3. Press the ⏭ and ⏮ key to move the optical pick-up to the center. (Move the optical pick-up to the music area on the disc to enable easy visibility of the eye pattern).
4. Insert the disc (YEDS-18) and close the top panel.
5. Press the ⏯ key.
   (It will go from focus search to focus on, and CLV pull-in mode state. Tracking and sled are OFF.)
6. Press the TRACK key. (Tracking and sled go ON.)
7. Adjust RV503 so that the oscilloscope waveform eye pattern is good. A good eye pattern means that the diamond shape (◇) in the center of the waveform can be clearly distinguished.

● RF Signal Reference Waveform (eye pattern)

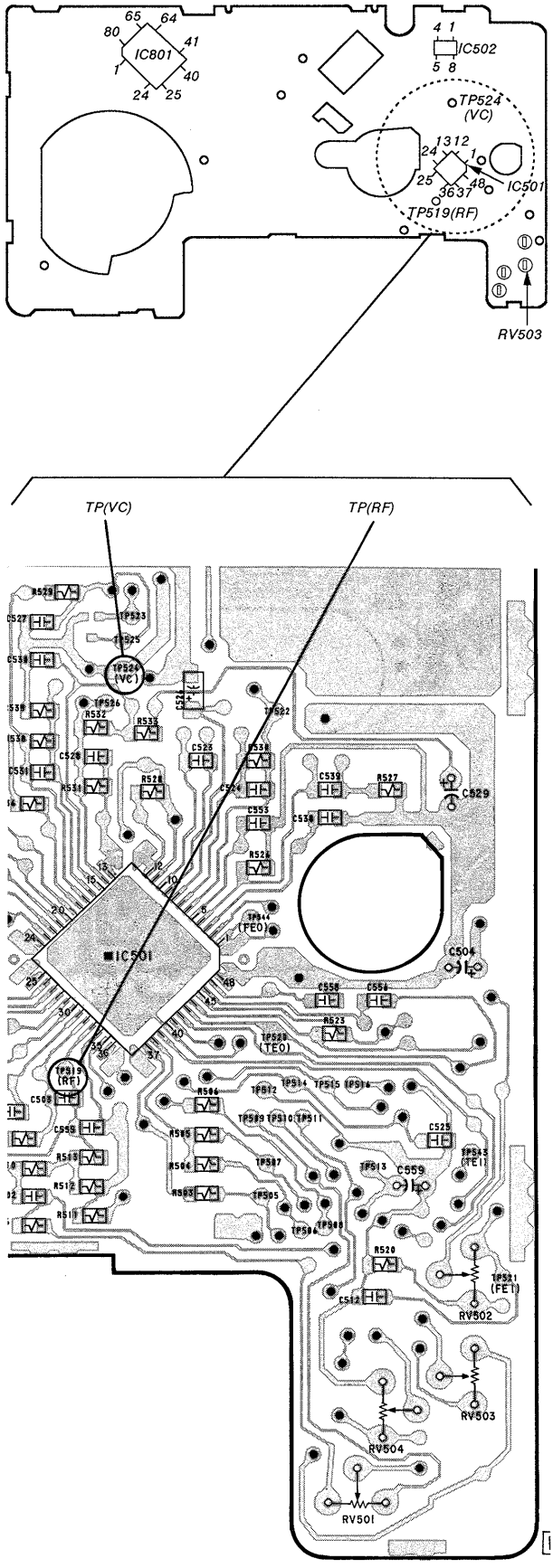
VOLT / DIV : 200mV
TIME / DIV : 500nS



When observing the eye pattern, set the oscilloscope for AC range and raise vertical sensitivity.

8. Press the ■ key to stop spindole from rotating.
9. After adjustment, release service mode (see page 5).

Adjustment Location : Main board (side B)



Reference

Focus/Tracking Gain Adjustment

A frequency responce analyzer or CD jig is necessary in order to perform this adjustment exactly.

However, this gain has a margin, so even if it is slightly off, there is no problem. Therefore, do not perfrom this adjustment.

Focus/tracking gain determines the pick-up followup (vertical and horizontal) relative to mechanical noise and mechanical shock when the 2-axis device operate. However, as these reciprocate, the adjustment is at the point where both are satisfied.

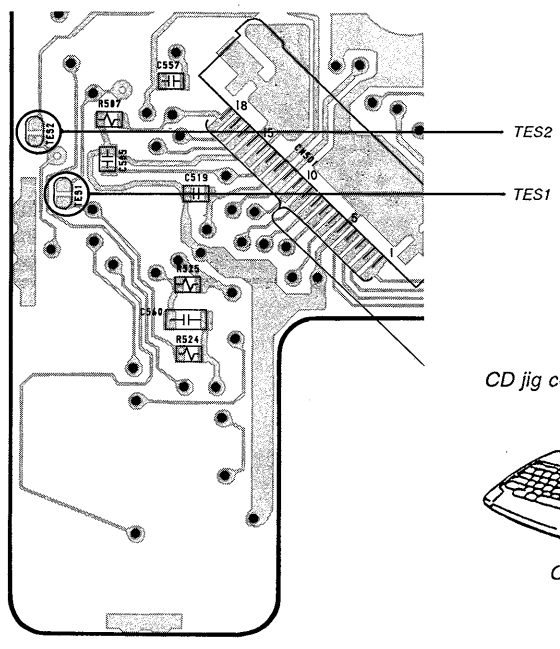
- When gain is high, the noise when the 2-axis device operates increases.
- When gain is low, it is more susceptible to mechanical shock and skipping occurs more easily.

This adjustment is to be performed when replacing the following parts:

- optical pick-up block
- RV502 (focus gain volume)
- RV504 (tracking gain volume)

Be careful not to move RV502 (focus gain volume) and RV504 (tracking gain volume) ordinarily.

– Main board – (side A)

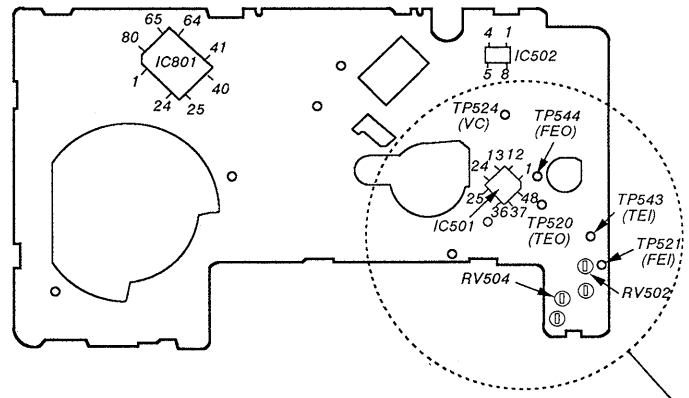


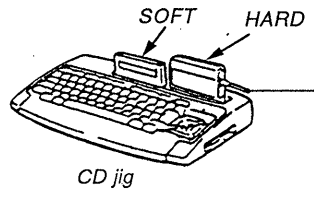
On this set, it is very difficult to simplify this adjustment. For those sets on which symptoms such as"occasional skipping" are hard to discover, or it is hard to tell if the set has been repaired, use the CD jig and perform this adjustment. Refer to the diagram below for connection of the CD jig. The adjustment procedure is described in the separate CD Jig Instruction Manual.

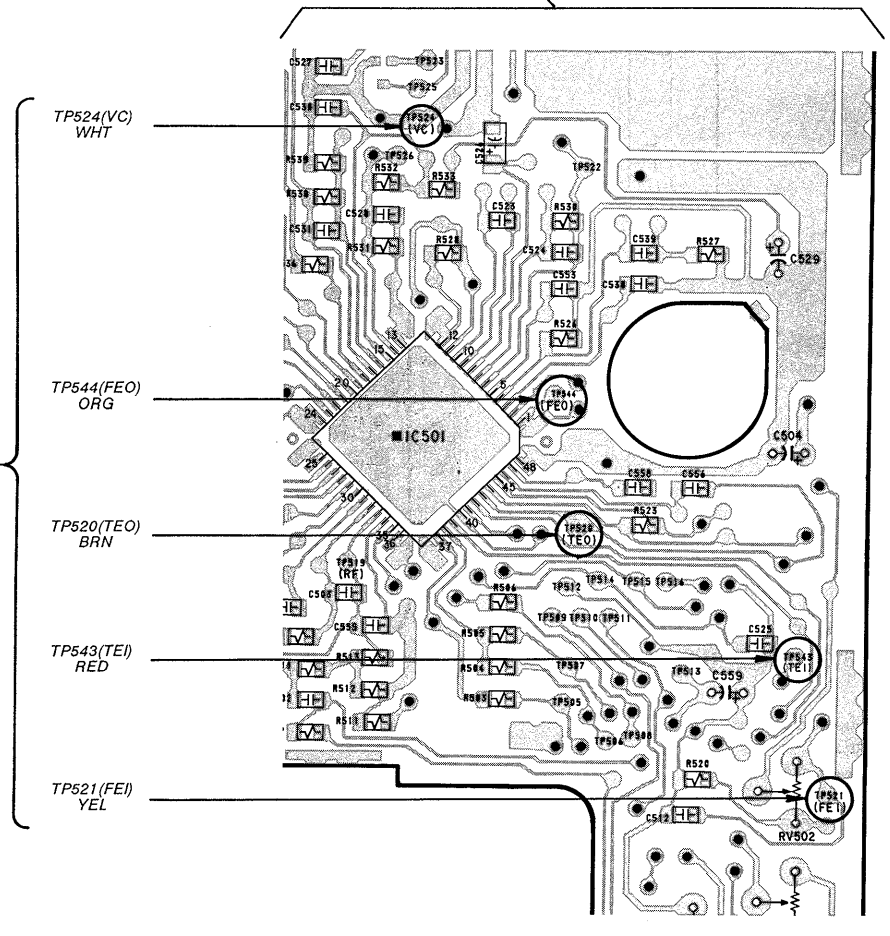
CD Jig Connection Procedure :

Remove the TES1, TES2 two solder bridge of connect the cord to the CD jig as shown in the figure below. At this time, connect the cord of the IC501 side to the output terminal for the CD jig and connect the volume side cords to the input terminal from the CD jig.

– Main board – (side A)



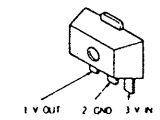




SECTION 6
DIAGRAMS

• SEMICONDUCTOR READ LAYOUTS

RH5RA35A
RH5VA37AA
RH5VA24AC



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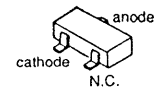
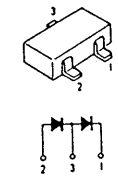


DA204K
SB007T03C



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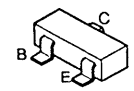
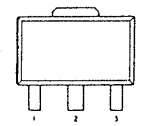
2SA1677
UN5214
UN5212
2SB1120-G
2SB1197K-Q



RB110C



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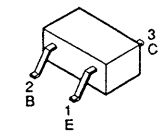
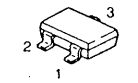
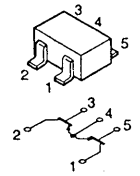


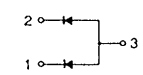
DAP202U



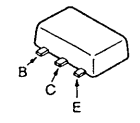
FMA4

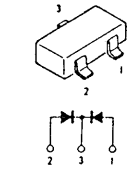


SB007W03C
SB007W03Q



2SB1308





6-1. PRINTED WIRING BOARDS

● Refer to page 11 for Semiconductor Lead Layouts.

● SEMICONDUCTOR LOCATION

Ref. No.	Location	Ref. No.	Location
D101	F-27	Q104	B-2
D102	F-27	Q105	E-27
D201	E-2	Q204	B-2
D202	E-2	Q205	D-2
D301	G-4	Q301	B-25
D302	G-5	Q302	B-24
D303	B-25	Q303	B-3
D304	H-26	Q304	B-3
D401	G-24	Q305	H-5
D402	F-6	Q306	G-5
D403	H-24	Q308	D-3
D404	F-23	Q309	F-27
D501	B-13	Q310	F-3
D502	B-13	Q402	E-6
D801	B-21	Q403	H-24
D802	C-25	Q404	H-24
D803	B-24	Q406	H-23
D804	B-26	Q407	F-6
		Q501	C-12
IC301	D-23	Q503	F-18
IC303	C-26	Q504	C-10
IC304	G-27	Q505	C-11
IC305	H-4	Q506	C-10
IC306	G-24	Q601	D-8
IC501	E-12		
IC502	B-12		
IC504	E-21		
IC505	B-13		
IC601	C-21		
IC602	E-9		
IC801	B-5		
IC802	C-25		
IC803	B-24		
IC804	B-20		
IC805	C-24		

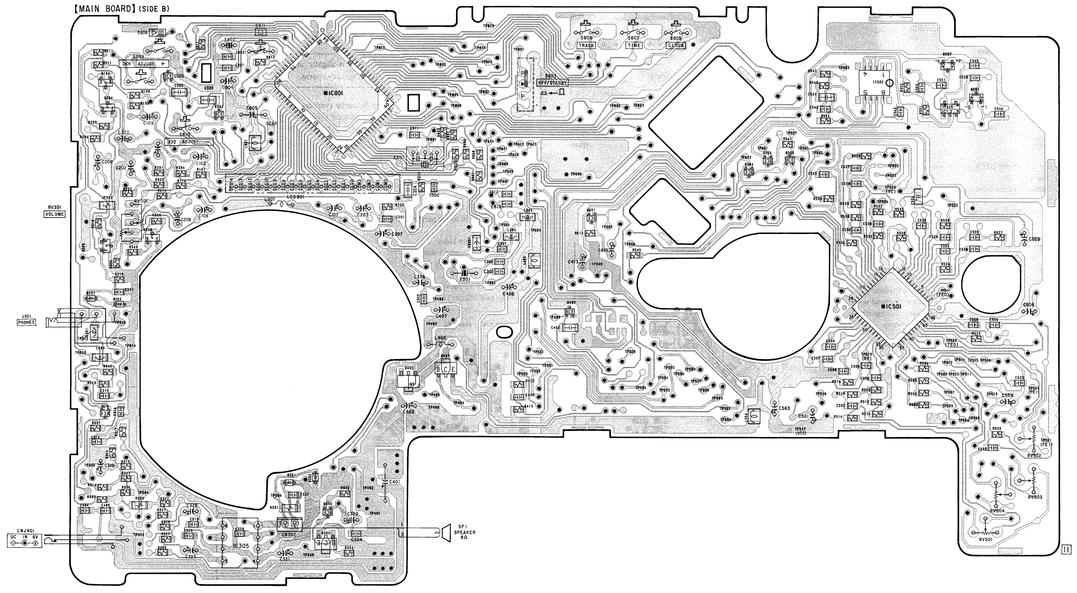
Note:

- ○— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.
- ● : Through hole.
- ▨ : Pattern from the side which enables seeing. (The other layers' patterns are not indicated)

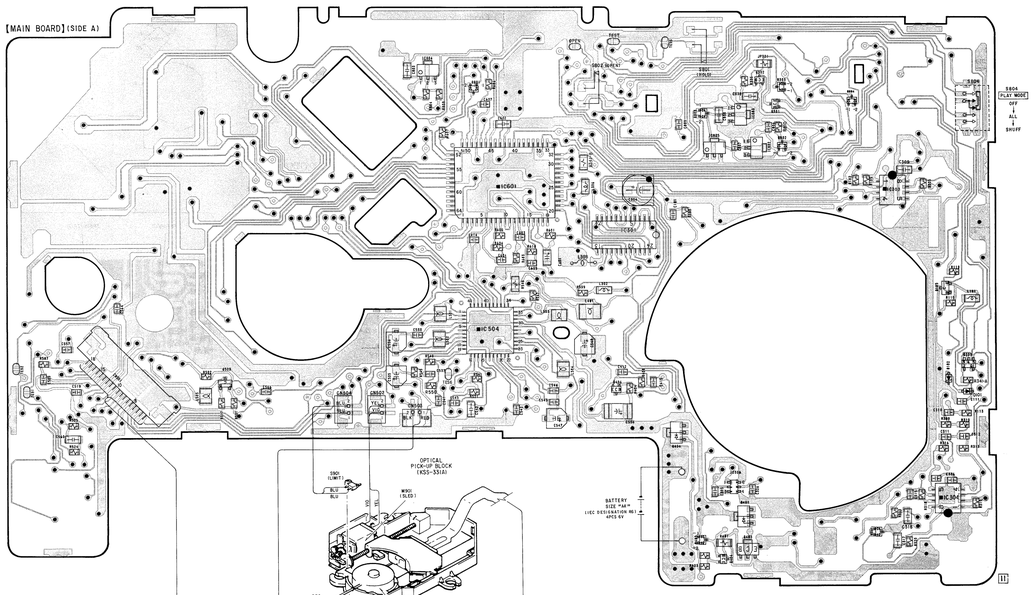
Caution :

Pattern face side : Parts on the pattern face side seen from (Conductor Side) the pattern face are indicated.
Parts face side : Parts on the parts face side seen from the (Component side) parts face are indicated.

【MAIN BOARD】(SIDE B)

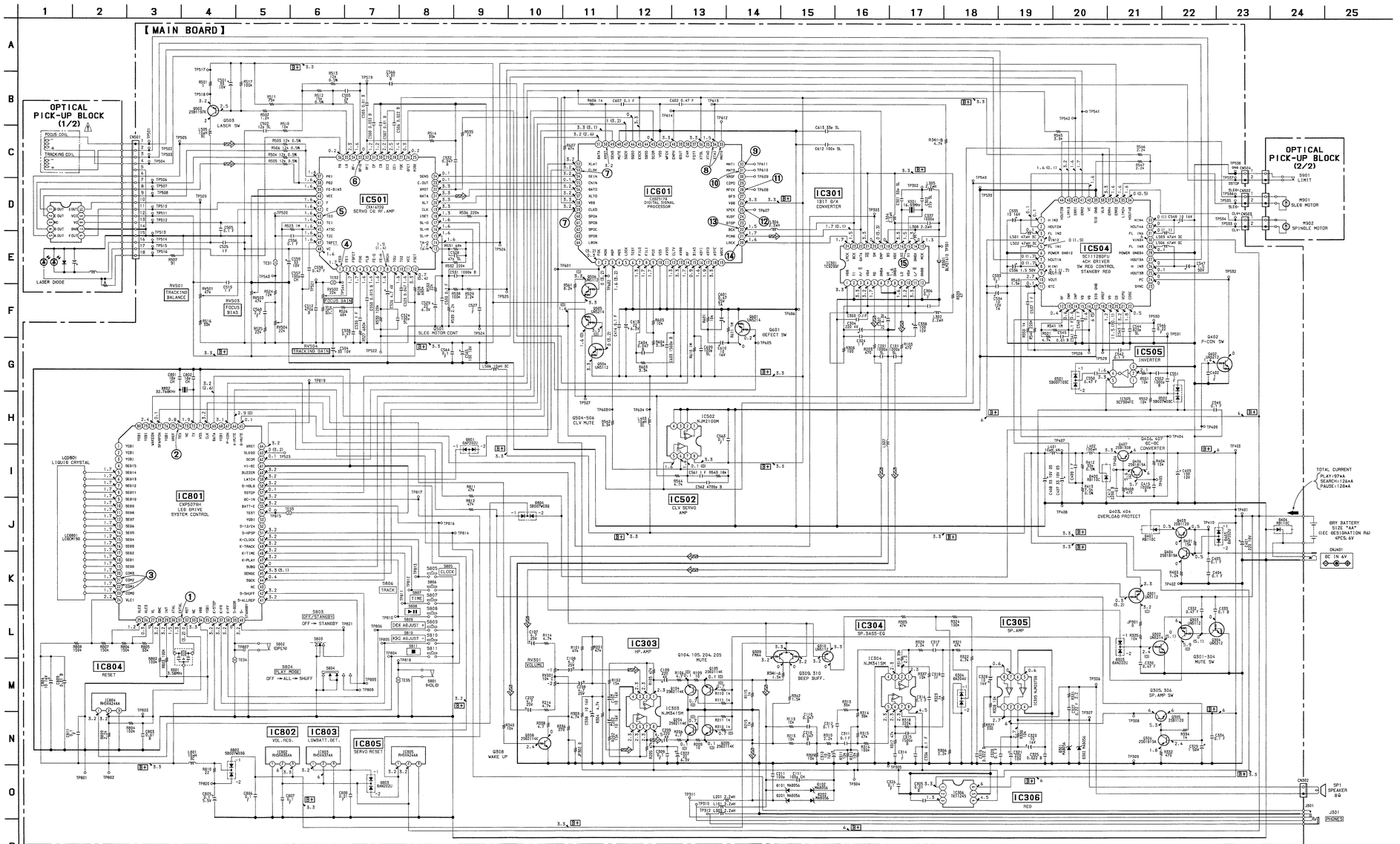


【MAIN BOARD】(SIDE A)

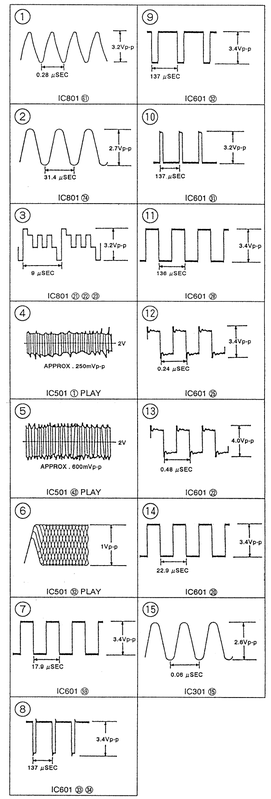


6-2. SCHEMATIC DIAGRAM

● Refer to page 21 for IC Block Diagrams.



● WAVEFORMS



Note :

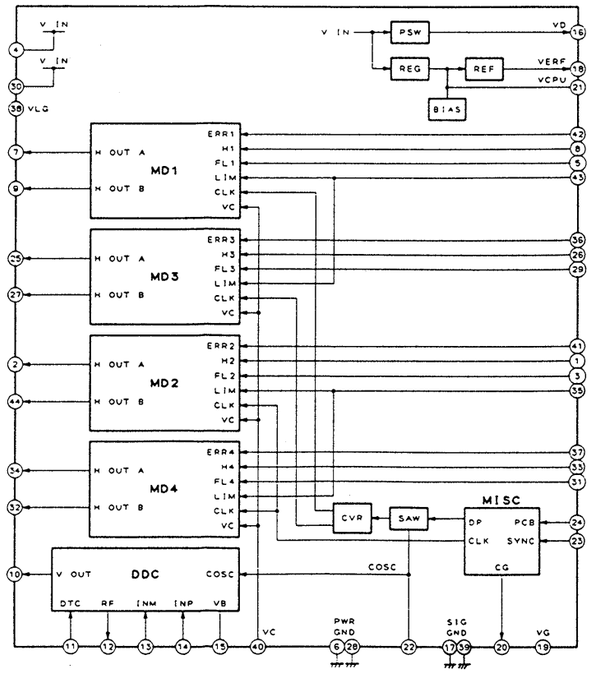
- All capacitors are in μ F unless otherwise noted. pF: μ μ F 50WV or less are not indicated except for electrolytics and tantaliums.
- All resistors are in Ω and 1/10W or less unless otherwise specified.

Note :	Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

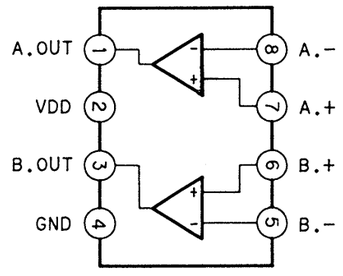
- B+ : B+ Line
- ▭ : adjustment for repair.
- Power voltage is dc 6V and fed with regulated dc power supply from external power voltage jack.
- Voltage and waveforms are dc with respect to ground under the service mode.
  no mark : STOP
  ( ) : PLAY
- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : CD

6-3. IC BLOCK DIAGRAMS

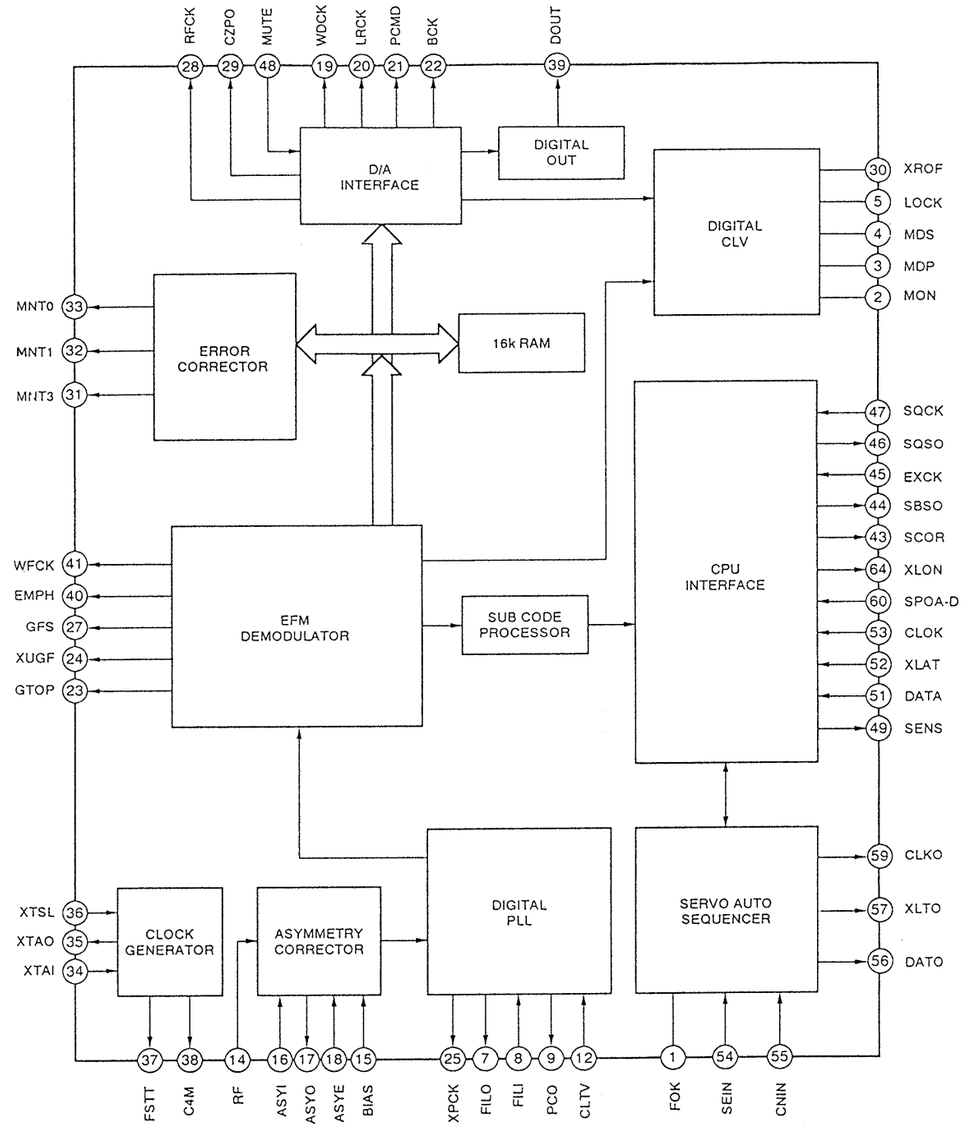
IC504 SC111280FU



IC305 NJM2073D



IC601 CXD2517Q



SECTION 7
EXPLANATION OF IC TERMINALS

IC 601 CXD2517Q

Pin No.	Mark	I/O	Functional description
1	FOK	I	Focus OK input terminal. This is used for SENS output and servo auto sequencer.
2	MON	O	ON/OFF control output for spindle motor.
3	MDP	O	Servo control for spindle motor.
4	MDS	O	Servo control for spindle motor. (Not used)
5	LOCK	O	This samples GFS at 460Hz and outputs H when GFS is in "H", This outputs L when GFS is "L" eight times continuously. (Not used)
6	TEST	I	Test terminal. Normally this is used for GND.
7	FILO	O	Filter output for master PLL (Slave = digital PLL).
8	FILI	I	Filter output for master PLL.
9	PCO	O	Charge pump output for master PLL.
10	V_{SS}	–	GND.
11	AV_{SS}	–	Analog GND.
12	CLTV	I	VCO control voltage input for master.
13	AV_{DD}	–	Analog power source . (+5V)
14	RF	I	EFM signal input.
15	BIAS	I	Asymmetry circuit constant current input.
16	ASYI	I	Asymmetry comparator voltage input.
17	ASYO	O	EFM full swing output. (L =V_{SS}, H=V_{DD})
18	ASYE	I	L : Asymmetry circuit is OFF, H : Asymmetry circuit is ON
19	WDCK	O	D/A interface. Word clock f=2Fs (Not used)
20	LRCK	O	D/A interface. LR clock f=Fs
21	PCMD	O	D/A interface. Serial data. (2's COMP, MSB fast)
22	BCK	O	D/A interface. Bit clock
23	GTOP	O	GTOP output. (Not used)
24	XUGF	O	XUGF output. (Not used)
25	XPCK	O	XPLCK output.
26	V_{DD}	–	Power source. (+5V)
27	GFS	O	GFS output. (Not used)
28	RFCK	O	RFCK output.
29	C2PO	O	C2PO output. (Not used)
30	XROF	O	XRAOF output.
31	MNT3	O	XNT3 output.
32	MNT1	O	XNT1 output.
33	MNT0	O	XNT0 output.
34	XTAI	I	Xtal oscillator circuit input of 16.9344MHz or 33.8688MHz input.
35	XTAO	O	Xtal oscillator circuit output of 16.9344MHz . (Not used)

Pin No.	Mark	I/O	Functional description
36	XTSL	I	Xtal section input terminal. L when Xtal is 16.9344MHz. H when Xtal is 33.8688MHz.
37	FSTT	O	2/3 dividing output of pins 34 and 35
38	C4M	O	4.2336MHz output (Not used)
39	DOUT	O	Digital out terminal
40	EMPH	O	H output when playing disc has emphasis.
41	WFCK	O	WFCK output. (Not used)
42	V_{SS}	–	GND.
43	SCOR	O	H output when either sub-code Sync S0 or S1 is detected.
44	SBSO	O	Sub P-W serial output. (Not used)
45	EXCK	I	Clock input for SBSO read out. (Connection to V_{DD} with this unit)
46	SQSO	O	Serial output of subQ 80 bit.
47	SQCK	I	Clock input for SQSO read out.
48	MUTE	I	H : Mute, L : Cancellation (Connection to GND with this unit)
49	SENS	O	SENS output. Output for CPU
50	XRST	I	System reset. Reset with L.
51	DATA	I	Serial data input from CPU
52	XLAT	I	Latch input from CPU. This latches the serial data in trailing edge.
53	CLOK	I	Serial data transmission clock input from CPU.
54	SEIN	I	Sense input from SSP.
55	CNIN	I	Track jump couting signal input.
56	DATO	O	Serial data output for SSP.
57	XLTO	O	Serial data latch output for SSP. This latches the serial data in trailing edge.
58	V_{DD}	–	Power source. (+5V)
59	CLKO	O	Serial data transmission clock output for SSP.
60	SPOA	I	Micro computer expanding interface (Input A)
61	SPOB	I	Micro computer expanding interface (Input B)
62	SPOC	I	Micro computer expanding interface (Input C) (Not used)
63	SPOD	I	Micro computer expanding interface (Input D)
64	LDON	O	Micro computer expanding interface (Output)

Note)

- PCMD is 2's complement output of MSB fast.
- GTOP monitors the protection status of Frame Sync. (H : Sync protection window is released.)
- XUGF is a Frame Sync obtained from EFM signal and is a negative pulse. This is a signal before the Sync is protected.
- XPLCK is reversed rotation of the clock of EFN PLL. PLL is made so that the changing points of the EFM signal and the trailing edge become same point.
- GFS signal is a signal which becomes "H" when the Frame Sync and the interpolation protection timing coincide.
- RFCK is a 136 μ frequency signal obtained with Xtal precision.
- C2PO is a signal which indicates an error status of the data.
- XRAOF is a signal which is generated when 16 K RAM exceeds $\pm$ 4F of the jitter margin.

IC801 CXP5078H-626Q

Pin No.	Mark	I/O	Functional description
1	YOBI	–	Not used.
2	YOBI	–	Not used.
3	YOBI	–	Not used.
4	SEG15	O	Segment signal output terminal . (Not used)
5	SEG14	O	Segment signal output terminal .
6	SEG13	O	Segment signal output terminal .
7	SEG12	O	Segment signal output terminal .
8	SEG11	O	Segment signal output terminal .
9	SEG10	O	Segment signal output terminal .
10	SEG9	O	Segment signal output terminal .
11	SEG8	O	Segment signal output terminal .
12	SEG7	O	Segment signal output terminal .
13	SEG6	O	Segment signal output terminal .
14	SEG5	O	Segment signal output terminal .
15	SEG4	O	Segment signal output terminal .
16	SEG3	O	Segment signal output terminal .
17	SEG2	O	Segment signal output terminal .
18	SEG1	O	Segment signal output terminal .
19	SEG0	O	Segment signal output terminal .
20	COM3	O	Common signal output terminal .
21	COM2	O	Common signal output terminal .
22	COM1	O	Common signal output terminal .
23	COM0	O	Common signal output terminal .
24	VLC1	–	Supply terminal for LCD bias power.
25	VLC2	–	Supply terminal for LCD bias power.
26	VLC3	–	Supply terminal for LCD bias power.
27	VL	O	Control terminal for cutting off the current that flows to the LCD bias resistor during standby.
28	RMC	I	Input terminal for remote control reception circuit. (Not used)
29	INT	I	Offering input terminal. (Not used)
30	XTAL	I	Input terminal for clock oscillation circuit.
31	EXTAL	O	Output terminal for clock oscillation circuit.
32	RST	I	System reset input terminal.
33	NC	–	Not used.
34	V_{DD}	–	Power supply terminal.
35	Y0BI	–	Not used.
36	K-STOP	I	STOP switch (S811) input terminal.
37	K-FR	I	FR switch (S810) input terminal.
38	K-FF	I	FF switch (S809) input terminal.
39	S-DOOR	I	DOOR switch (S802) input terminal
40	S-STANDBY	I	STANDBY switch input terminal.

Pin No.	Mark	I/O	Functional description
41	S-ALLREP	I	Play mode (S804) switch (REPEAT) input terminal.
42	S-SHUFF	I	Play mode (S804) switch (SHUFFLE) input terminal.
43	NC	–	Not used.
44	SQCK	I	Clock signal input terminal for inputting SUB-Q signal from CXD2517Q (IC601).
45	SENSE	I	SENSE singnal input terminal from CXD2517Q (IC601).
46	SUBQ	I	SUB-Q signal input terminal from CXD2517Q (IC601).
47	K-PLAY	I	PLAY switch (S808) input terminal.
48	K-TIME	I	TIME switch (S807) input terminal.
49	K-TRACK	I	TRACK switch (S806) input terminal.
50	K-CLOCK	I	CLOCK switch (S805) input terminal.
51	S-HPSP	I	Input terminal for headphone/speaker output switching.
52	S-12/24	I	Terminal for switchng of 12/24hours. "L" : 12Hours, "H" : 24Hours (Not used)
53	YOBI	–	Not used.
54	TEST	I	Test mode at "L" level input during system input.
55	BATT-E	I	Battery level detection terminal.
56	DC-IN	I	DC IN detection terminal.. "L" :DC IN available, "L" : DC IN not available
57	SSTOP	I	LIMIT switch.
58	S-HOLD	I	HOLD switch (S801) input terminal.
59	LATCH	O	Latch signal output terminal used when transmitting serial data to CXD2517Q (IC601).
60	BUZZER	O	BEEP signal output terminal.
61	HI-DC	–	Detection terminal for DC-IN overvlotage. "H": overvoltage
62	SCOR	I	Input terminal for inputting SCOR signal from CXD2517Q (IC601)
63	SLEDO	O	Output terminal for ON/OFF control of CXA1672Q (IC501) sled output. "L" : ON, "H" : OFF
64	XRST	O	Reset signal output terminal. "L" : Reset ON
65	D-MUTE	O	Digital mute control output terminal. "H" : Mute
66	A-MUTE	O	Analog mute control output terminal. "H" : Mute
67	P-COM	O	Output terminal for controlling the power supply. "L" : ON, "H" : OFF
68	YOBI	–	Not used.
69	DATA	O	Serial data output terminal to CXD2517Q (IC601).
70	CLK	O	Clock signal output terminal for transmitting serial data to CXD2517Q (IC601).
71	Vss	–	Power supply terminal. (GND)
72	TX	O	Input terminal for 32kHz timer clock oscillation.
73	NC	–	Not used.
74	TEX	I	Output terminal for 32kHz oscillation circuit.
75	VREF	–	Not used.
76	YOBI	–	Not used.
77	SPAMP ON	O	Power switch control terminal for speaker amplifier.
78	WAKE ON	I	Input terminal for cancelling the standby mode. "H" : Cancelling
79	YOBI	–	Not used.
80	YOBI	–	Not used.

SECTION 8
EXPLODED VIEWS

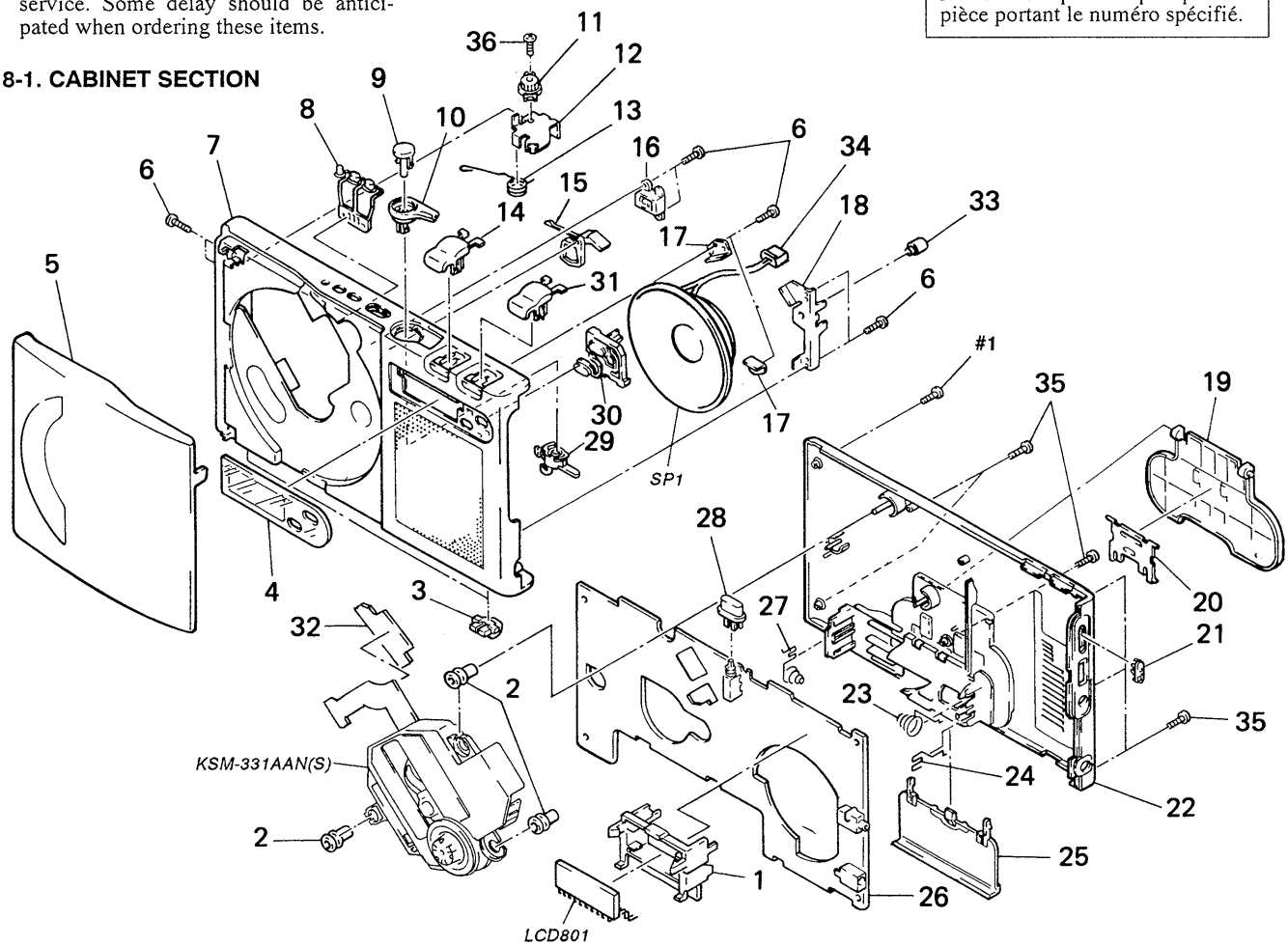
NOTE :

- -XX, -X mean standardized parts, so they may have some difference from the original one.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " * "are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

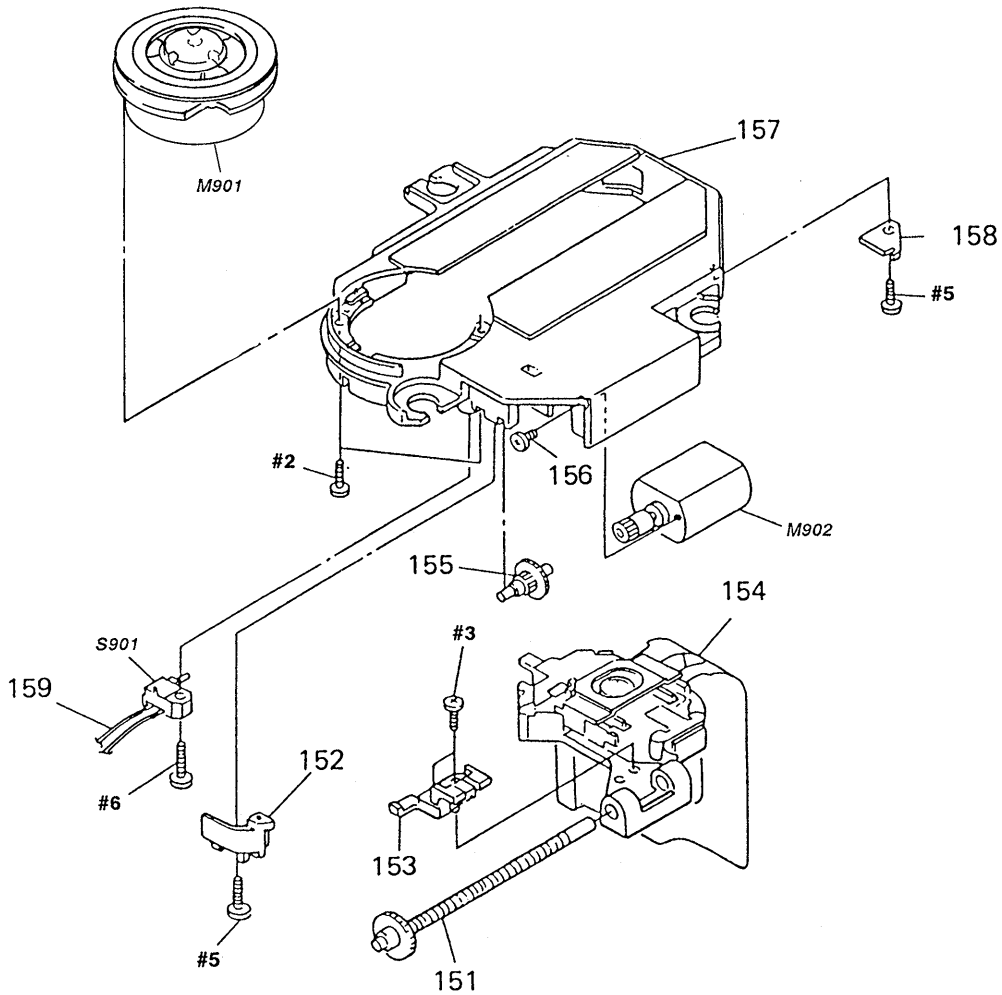
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

8-1. CABINET SECTION



Ref. No.	Part No.	Description	Remark
* 1	4-966-204-01	HOLDER (LCD)	
2	4-947-759-01	INSULATOR	
3	4-966-196-01	LEG, RUBBER	
4	4-966-182-11	WINDOW (LCD)	
5	X-4944-866-1	LID ASSY, UPPER	
6	4-951-291-01	SCREW	
7	4-966-181-11	CABINET (UPPER)	
8	4-966-185-01	BUTTON (T/M)	
9	4-966-190-01	BUTTON (OPEN)	
10	4-966-188-01	LEVER (LOCK)	
11	4-036-880-11	DAMPER	
* 12	4-966-198-01	BRACKET (DAMPER)	
13	4-966-197-01	SPRING (SWITCHING)	
14	4-966-183-01	BUTTON (P/S)	
15	4-966-191-01	CATCHER (LOCK)	
16	4-966-192-01	CATCHER (HOLDER)	
* 17	4-966-195-01	RETAINER (B), SP	
* 18	4-966-194-01	RETAINER (A), SP	
19	4-966-205-01	STAND	
20	4-966-206-01	STAY, STAND	
21	4-966-199-01	KNOB (MODE)	
22	4-966-240-01	CABINET (LOWER)	
23	4-966-201-01	TERMINAL (-), BATTERY	
24	4-966-200-01	TERMINAL (+), BATTERY	
25	4-966-207-01	LID, BATTERY CASE	
26	A-3269-317-A	MAIN BOARD, COMPLETE	
27	4-966-202-01	TERMINAL (RELAY), BATTERY	
28	4-966-203-01	BUTTON (STBY)	
29	4-966-187-01	KNOB (LOCK)	
30	4-966-186-01	BUTTON (F/R)	
31	4-966-184-01	BUTTON (PLAY)	
32	4-956-818-01	RETAINER, FLEXIBLE	
33	4-967-759-01	HOLDER, JACK	
* 34	1-562-252-00	HOUSING, CONNECTOR 2P	
35	3-336-395-01	SCREW (B2X10) (G), TAPPING	
36	7-621-255-20	SCREW +P2X4	
LCD801	1-810-545-11	DISPLAY PANEL, LIQUID CRYSTAL	
SP1	1-544-577-11	SPEAKER (7.7CM)	

8-2. OPTICAL PICK-UP MECHANISM SECTION (KSM-331AAN(S))



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
151	X-2625-483-1	SCREW ASSY, SLED	
152	2-625-412-02	SPRING, SLED	
153	2-625-414-02	RACK	
⚠154	8-848-289-31	DEVICE, OPTICAL KSS-331A	
155	2-625-410-01	GEAR (B)	
156	3-732-988-01	SCREW (M2X2.5)	

Ref. No.	Part No.	Description	Remark
157	2-625-415-05	CHASSIS, MD	
158	2-625-411-01	RETAINER, SHAFT	
159	1-948-418-21	HARNESS	
M901	X-2625-485-1	MOTOR ASSY, T.T.	
M902	X-2625-171-2	MOTOR ASSY, SLED	
S901	1-570-771-11	SWITCH(LIMIT)	

SECTION 9
ELECTRICAL PARTS LIST

MAIN

NOTE :
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms
  METAL : Metal-film resistor
  METAL OXIDE : Metal oxide-film resistor
  F : nonflammable
- Items marked " * "are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : μ , for example :
  uA.... : μA.... , uPA.... : μPA....
  uPB.... : μPB.... , uPC.... : μPC....
  uPD.... : μPD....
- CAPACITORS
  uF : μF
- COILS
  uH : μH

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board.

Ref.No.	Part No.	Description			Remark
	A-3269-317-A	MAIN BOARD, COMPLETE			
		**********			
	4-966-203-01	BUTTON (STBY)			
*	4-966-204-01	HOLDER (LCD)			
		< CAPACITOR >			
C101	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C102	1-126-157-11	ELECT	10uF	20%	16V
C107	1-126-163-11	ELECT	4.7uF	20%	50V
C108	1-126-163-11	ELECT	4.7uF	20%	50V
C109	1-124-434-00	ELECT	220uF	20%	4V
C110	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C111	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C201	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C202	1-126-157-11	ELECT	10uF	20%	16V
C207	1-126-163-11	ELECT	4.7uF	20%	50V
C208	1-126-163-11	ELECT	4.7uF	20%	50V
C209	1-124-434-00	ELECT	220uF	20%	4V
C210	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C211	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C301	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C302	1-163-101-00	CERAMIC CHIP	22PF	5%	50V
C303	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C304	1-126-246-11	ELECT CHIP	220uF	20%	4V
C305	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C306	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C307	1-126-153-11	ELECT	22uF	20%	6.3V
C308	1-126-157-11	ELECT	10uF	20%	16V
C309	1-163-077-00	CERAMIC CHIP	0.1uF		50V
C310	1-126-157-11	ELECT	10uF	20%	16V
C311	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C312	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C314	1-164-346-11	CERAMIC CHIP	1uF		16V
C315	1-163-011-11	CERAMIC CHIP	0.0015uF	10%	50V
C316	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C317	1-162-638-11	CERAMIC CHIP	1uF		16V
C318	1-162-638-11	CERAMIC CHIP	1uF		16V
C319	1-163-033-00	CERAMIC CHIP	0.022uF		50V
C320	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C321	1-128-241-11	ELECT	220uF	20%	10V
C322	1-126-153-11	ELECT	22uF	20%	6.3V
C323	1-126-157-11	ELECT	10uF	20%	16V
C324	1-162-638-11	CERAMIC CHIP	1uF		16V
C325	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C326	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C327	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C328	1-126-157-11	ELECT	10uF	20%	16V
C329	1-126-160-11	ELECT	1uF	20%	50V
C330	1-162-637-11	CERAMIC CHIP	0.47uF		16V
C332	1-162-637-11	CERAMIC CHIP	0.47uF		16V
C333	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C334	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C336	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C337	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C338	1-124-584-00	ELECT	100uF	20%	10V
C401	1-126-923-11	ELECT	220uF	20%	10V
C402	1-162-638-11	CERAMIC CHIP	1uF		16V
C403	1-124-584-00	ELECT	100uF	20%	10V
C404	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C405	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C407	1-127-561-11	ELECT(SOLID)	33uF	20%	10V
C408	1-127-561-11	ELECT(SOLID)	33uF	20%	10V
C409	1-164-346-11	CERAMIC CHIP	1uF		16V
C412	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C413	1-126-153-11	ELECT	22uF	20%	6.3V
C414	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C415	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V

MAIN

Ref.No.	Part No.	Description			Remark
C501	1-124-229-00	ELECT	33uF	20%	10V
C502	1-163-095-00	CERAMIC CHIP	12PF	5%	50V
C503	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C504	1-124-229-00	ELECT	33uF	20%	10V
C505	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C506	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C507	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C508	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C512	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C519	1-164-346-11	CERAMIC CHIP	1uF		16V
C523	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C524	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C525	1-164-346-11	CERAMIC CHIP	1uF		16V
C526	1-135-151-21	TANTALUM CHIP	4.7uF	20%	4V
C527	1-164-346-11	CERAMIC CHIP	1uF		16V
C528	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C529	1-126-153-11	ELECT	22uF	20%	6.3V
C530	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C531	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C532	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C533	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C534	1-135-216-11	TANTALUM CHIP	10uF	20%	10V
C535	1-124-779-00	ELECT CHIP	10uF	20%	16V
C536	1-126-194-21	ELECT	1.5uF	20%	50V
C537	1-164-346-11	CERAMIC CHIP	1uF		16V
C538	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C539	1-164-346-11	CERAMIC CHIP	1uF		16V
C540	1-162-638-11	CERAMIC CHIP	1uF		16V
C541	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C542	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C543	1-164-346-11	CERAMIC CHIP	1uF		16V
C544	1-163-139-00	CERAMIC CHIP	820PF	5%	50V
C545	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C546	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C547	1-126-194-21	ELECT	1.5uF	20%	50V
C548	1-124-779-00	ELECT CHIP	10uF	20%	16V
C549	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C550	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C551	1-164-346-11	CERAMIC CHIP	1uF		16V
C552	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C553	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C555	1-163-085-00	CERAMIC CHIP	2PF		50V
C556	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C557	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C558	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C559	1-124-229-00	ELECT	33uF	20%	10V
C560	1-164-337-11	CERAMIC CHIP	2.2uF		16V
C561	1-162-638-11	CERAMIC CHIP	1uF		16V
C562	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C563	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C564	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C565	1-124-584-00	ELECT	100uF	20%	10V
C566	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C601	1-135-145-11	TANTALUM CHIP	0.47uF	10%	35V
C602	1-162-637-11	CERAMIC CHIP	0.47uF		16V
C603	1-163-011-11	CERAMIC CHIP	0.0015uF	10%	50V
C604	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C607	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C609	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C610	1-126-157-11	ELECT	10uF	20%	16V
C612	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C613	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C801	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
C802	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
C803	1-163-059-00	CERAMIC CHIP	0.01uF	10%	50V
C804	1-126-157-11	ELECT	10uF	20%	16V
C805	1-125-710-11	CAP, DOUBLE LAYER	0.10F		
C806	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C807	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C808	1-163-059-00	CERAMIC CHIP	0.01uF	10%	50V
C809	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C811	1-163-038-00	CERAMIC CHIP	0.1uF		25V

< CONNECTOR >

CN302	1-564-718-11	PIN HEADER, ANGLE 2P	
CN501	1-566-534-11	CONNECTOR, FPC (ZIF) 18P	
* CN502	1-695-320-31	PIN, CONNECTOR (1.5MM)(SMD)	2P
* CN503	1-695-320-21	PIN, CONNECTOR (1.5MM)(SMD)	2P
* CN504	1-695-320-51	PIN, CONNECTOR (1.5MM)(SMD)	2P

< JACK >

CNJ401	1-568-907-31	JACK, DC(POLARITY UNIFEID TYPE)

< DIODE >

D303	8-719-941-86	DIODE	DAN202U
D304	8-719-914-42	DIODE	DA204K-T-146
D401	8-719-975-33	DIODE	RB110C
D402	8-719-975-33	DIODE	RB110C
D403	8-719-941-09	DIODE	DAP202U
D404	8-719-975-33	DIODE	RB110C
D501	8-719-989-73	DIODE	SB007T03C
D502	8-719-986-76	DIODE	SB007W03C
D801	8-719-941-09	DIODE	DAP202U
D802	8-719-988-78	DIODE	SB007W03Q
D803	8-719-941-86	DIODE	DAN202U
D804	8-719-988-78	DIODE	SB007W03Q

Ref.No.	Part No.	Description	Remark
		< FERRITE BEAD >	
FB301	1-414-135-11	INDUCTOR CHIP 0UH	
		< IC >	
IC301	8-759-264-22	IC TC9293F-EL	
IC303	8-759-711-55	IC NJM3415M-T1	
IC304	8-759-710-55	IC NJM2100M	
IC305	8-759-701-54	IC NJM2073D	
IC306	8-759-168-90	IC TK11245TL	
IC501	8-752-063-45	IC CXA1672Q	
IC502	8-759-710-55	IC NJM2100M	
IC504	8-759-164-13	IC SC111280FU	
IC505	8-759-031-84	IC SC7S04F	
IC601	8-752-361-92	IC CXD2517Q	
IC801	8-752-847-81	IC CXP5078H-626Q	
IC802	8-759-054-98	IC RH5RA35A	
IC803	8-759-979-64	IC RH5VA37AA	
IC804	8-759-511-00	IC RH5VA24AC	
IC805	8-759-511-00	IC RH5VA24AC	
		< JACK >	
J301	1-563-715-31	JACK(PHONES)	
		< JUMPER RESISTOR >	
JP301	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JP302	1-216-296-91	METAL GLAZE 0 5% 1/8W	
		< COIL >	
L101	1-410-196-11	INDUCTOR CHIP 2.2uH	
L201	1-410-196-11	INDUCTOR CHIP 2.2uH	
L302	1-410-196-11	INDUCTOR CHIP 2.2uH	
L303	1-410-196-11	INDUCTOR CHIP 2.2uH	
L304	1-410-196-11	INDUCTOR CHIP 2.2uH	
L305	1-410-196-11	INDUCTOR CHIP 2.2uH	
L306	1-410-196-11	INDUCTOR CHIP 2.2uH	
L307	1-414-135-11	INDUCTOR CHIP	
L308	1-410-196-11	INDUCTOR CHIP 2.2uH	
L401	1-412-622-51	INDUCTOR 10uH	
L402	1-410-627-11	COIL, CHOKE 100uH	
L403	1-412-029-11	INDUCTOR CHIP 10uH	
L501	1-412-031-11	INDUCTOR CHIP 47uH	
L502	1-412-031-11	INDUCTOR CHIP 47uH	
L503	1-412-031-11	INDUCTOR CHIP 47uH	
L504	1-412-031-11	INDUCTOR CHIP 47uH	
L505	1-412-029-11	INDUCTOR CHIP 10uH	
L506	1-412-029-11	INDUCTOR CHIP 10uH	
L801	1-412-029-11	INDUCTOR CHIP 10uH	

Ref.No.	Part No.	Description	Remark
		< LIQUID CRYSTAL DISPLAY >	
LCD801	1-810-545-11	DISPLAY PANEL, LIQUID CRYSTAL	
		< TRANSISTOR >	
Q104	8-729-023-22	TRANSISTOR 2SD2114KT146	
Q105	8-729-023-22	TRANSISTOR 2SD2114KT146	
Q204	8-729-023-22	TRANSISTOR 2SD2114KT146	
Q205	8-729-023-22	TRANSISTOR 2SD2114KT146	
Q301	8-729-810-13	TRANSISTOR 2SA1677	
Q302	8-729-402-93	TRANSISTOR UN5214-TX	
Q303	8-729-810-13	TRANSISTOR 2SA1677	
Q304	8-729-402-45	TRANSISTOR UN5212	
Q305	8-729-806-76	TRANSISTOR 2SB1120-G	
Q306	8-729-402-32	TRANSISTOR 2SD1819A-R	
Q308	8-729-023-22	TRANSISTOR 2SD2114KT146	
Q309	8-729-902-90	TRANSISTOR FMA4	
Q310	8-729-810-13	TRANSISTOR 2SA1677	
Q402	8-729-402-45	TRANSISTOR UN5212	
Q403	8-729-806-76	TRANSISTOR 2SB1120-G	
Q404	8-729-402-32	TRANSISTOR 2SD1819A-R	
Q406	8-729-402-32	TRANSISTOR 2SD1819A-R	
Q407	8-729-923-48	TRANSISTOR 2SB1308-T100-Q	
Q503	8-729-904-86	TRANSISTOR 2SB1197K-Q	
Q504	8-729-810-13	TRANSISTOR 2SA1677	
Q505	8-729-402-93	TRANSISTOR UN5214-TX	
Q506	8-729-810-13	TRANSISTOR 2SA1677	
Q601	8-729-402-93	TRANSISTOR UN5214-TX	
		< RESISTOR >	
R101	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R102	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R103	1-216-041-00	METAL CHIP 470 5% 1/10W	
R105	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R106	1-216-308-00	METAL CHIP 4.7 5% 1/10W	
R109	1-216-001-00	METAL CHIP 10 5% 1/10W	
R110	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R111	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R113	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R114	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R115	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R201	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R202	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R203	1-216-041-00	METAL CHIP 470 5% 1/10W	
R205	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R206	1-216-308-00	METAL CHIP 4.7 5% 1/10W	
R209	1-216-001-00	METAL CHIP 10 5% 1/10W	
R210	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R211	1-216-049-00	METAL CHIP 1K 5% 1/10W	

MAIN

Ref.No.	Part No.	Description			Remark
R213	1-216-073-00	METAL CHIP	10K	5%	1/10W
R214	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R215	1-216-049-00	METAL CHIP	1K	5%	1/10W
R303	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R304	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R305	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R306	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R309	1-216-073-00	METAL CHIP	10K	5%	1/10W
R310	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R311	1-216-073-00	METAL CHIP	10K	5%	1/10W
R312	1-216-073-00	METAL CHIP	10K	5%	1/10W
R313	1-216-689-11	METAL CHIP	39K	0.5%	1/10W
R314	1-216-689-11	METAL CHIP	39K	0.5%	1/10W
R315	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R316	1-216-097-00	METAL CHIP	100K	5%	1/10W
R317	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R318	1-216-105-00	METAL CHIP	220K	5%	1/10W
R319	1-216-689-11	METAL CHIP	39K	0.5%	1/10W
R320	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R321	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R322	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R323	1-216-049-00	METAL CHIP	1K	5%	1/10W
R324	1-216-246-00	METAL GLAZE	100K	5%	1/8W
R327	1-216-037-00	METAL CHIP	330	5%	1/10W
R328	1-216-073-00	METAL CHIP	10K	5%	1/10W
R330	1-216-073-00	METAL CHIP	10K	5%	1/10W
R331	1-216-134-00	METAL CHIP	2.2	5%	1/8W
R332	1-216-041-00	METAL CHIP	470	5%	1/10W
R334	1-216-049-00	METAL CHIP	1K	5%	1/10W
R335	1-216-073-00	METAL CHIP	10K	5%	1/10W
R336	1-216-035-00	METAL CHIP	270	5%	1/10W
R337	1-216-073-00	METAL CHIP	10K	5%	1/10W
R338	1-216-308-00	METAL CHIP	4.7	5%	1/10W
R339	1-216-017-00	METAL CHIP	47	5%	1/10W
R340	1-216-073-00	METAL CHIP	10K	5%	1/10W
R341-A	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R341-B	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R342	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R401	1-216-077-00	METAL CHIP	15K	5%	1/10W
R403	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R404	1-216-073-00	METAL CHIP	10K	5%	1/10W
R408	1-216-041-00	METAL CHIP	470	5%	1/10W
R412	1-216-687-11	METAL CHIP	33K	0.5%	1/10W
R413	1-208-803-11	METAL CHIP	7.5K	0.50%	1/10W
R501	1-217-671-11	METAL CHIP	1	5%	1/10W
R502	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R503	1-216-677-11	METAL CHIP	12K	0.5%	1/10W
R504	1-216-677-11	METAL CHIP	12K	0.5%	1/10W
R505	1-216-677-11	METAL CHIP	12K	0.5%	1/10W
R506	1-216-677-11	METAL CHIP	12K	0.5%	1/10W
R507	1-216-024-00	METAL GLAZE	91	5%	1/10W
R510	1-216-073-00	METAL CHIP	10K	5%	1/10W
R511	1-216-094-00	METAL GLAZE	75K	5%	1/10W
R512	1-216-679-11	METAL CHIP	15K	0.5%	1/10W
R513	1-216-677-11	METAL CHIP	12K	0.5%	1/10W
R514	1-216-689-11	METAL CHIP	39K	0.5%	1/10W
R516	1-216-085-00	METAL CHIP	33K	5%	1/10W
R517	1-216-097-00	METAL CHIP	100K	5%	1/10W
R520	1-216-070-00	METAL CHIP	7.5K	5%	1/10W
R521	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R523	1-216-121-00	METAL CHIP	1M	5%	1/10W
R524	1-216-075-00	METAL CHIP	12K	5%	1/10W
R525	1-216-081-00	METAL CHIP	22K	5%	1/10W
R526	1-216-093-00	METAL CHIP	68K	5%	1/10W
R527	1-216-117-00	METAL CHIP	680K	5%	1/10W
R528	1-216-117-00	METAL CHIP	680K	5%	1/10W
R529	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R530	1-216-099-00	METAL CHIP	120K	5%	1/10W
R531	1-216-093-00	METAL CHIP	68K	5%	1/10W
R532	1-216-105-00	METAL CHIP	220K	5%	1/10W
R533	1-216-081-00	METAL CHIP	22K	5%	1/10W
R535	1-216-049-00	METAL CHIP	1K	5%	1/10W
R536	1-216-105-00	METAL CHIP	220K	5%	1/10W
R538	1-216-097-00	METAL CHIP	100K	5%	1/10W
R539	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R540	1-216-105-00	METAL CHIP	220K	5%	1/10W
R541	1-216-121-00	METAL CHIP	1M	5%	1/10W
R542	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R543	1-216-079-00	METAL CHIP	18K	5%	1/10W
R544	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R545	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R546	1-216-206-00	METAL GLAZE	2.2K	5%	1/8W
R547	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R549	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R550	1-216-049-00	METAL CHIP	1K	5%	1/10W
R551	1-216-073-00	METAL CHIP	10K	5%	1/10W
R552	1-216-073-00	METAL CHIP	10K	5%	1/10W
R561	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R601	1-216-073-00	METAL CHIP	10K	5%	1/10W
R603	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R604	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R605	1-216-073-00	METAL CHIP	10K	5%	1/10W
R607	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R610	1-216-121-00	METAL CHIP	1M	5%	1/10W
R611	1-216-121-00	METAL CHIP	1M	5%	1/10W
R802	1-216-097-00	METAL CHIP	100K	5%	1/10W
R803	1-216-097-00	METAL CHIP	100K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R804	1-216-097-00	METAL CHIP	100K	5%	1/10W
R805	1-216-085-00	METAL CHIP	33K	5%	1/10W
R806	1-216-101-00	METAL CHIP	150K	5%	1/10W
R807	1-216-101-00	METAL CHIP	150K	5%	1/10W
R808	1-216-101-00	METAL CHIP	150K	5%	1/10W
R809	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R810	1-216-009-00	METAL CHIP	22	5%	1/10W
R811	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R812	1-216-089-00	METAL GLAZE	47K	5%	1/10W
		< VARIABLE RESISTOR >			
RV301	1-223-444-11	RES, VAR, CARBON 10K/10K(VOLUME)			
RV501	1-238-602-11	RES, ADJ, CARBON 47K(E-F BALANCE)			
RV502	1-238-601-11	RES, ADJ, CARBON 22K(FOCUS GAIN)			
RV503	1-238-602-11	RES, ADJ, CARBON 47K(FOCUS BIAS)			
RV504	1-238-601-11	RES, ADJ, CARBON 22K(TRACKING GAIN)			
		< SWITCH >			
S801	1-572-719-11	SWITCH, PUSH (1 KEY)(HOLD)			
S802	1-572-719-11	SWITCH, PUSH (1 KEY)(OPEN)			
S803	1-692-987-11	SWITCH, PUSH (1 KEY)(OFF/STANDBY)			
S804	1-571-506-41	SWITCH, SLIDE(PLAY MODE)			
S805	1-570-990-11	SWITCH, TACT(CLOCK)			
S806	1-570-990-11	SWITCH, TACT(TRACK)			
S807	1-570-990-11	SWITCH, TACT(TIME)			
S808	1-571-977-11	SWITCH, TACTIL(▶II)			
S809	1-571-977-11	SWITCH, TACTIL(▶▶ADJUST +)			
S810	1-571-977-11	SWITCH, TACTIL(I◀◀ADJUST -)			
S811	1-571-977-11	SWITCH, TACTIL(■)			
		< VIBRATOR >			
X301	1-579-345-11	VIBRATOR, CERAMIC(16.93MHz)			
X801	1-579-956-11	VIBRATOR, CERAMIC(3.58MHz)			
X802	1-760-105-11	VIBRATOR, CRYSTAL(32.768kHz)			

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MISCELLANEOUS
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Ref. No.	Part No.	Description	Remark
* 34	1-562-252-00	HOUSING, CONNECTOR 2P	
⚠154	8-848-289-31	DEVICE, OPTICAL KSS-331A	
159	1-948-418-21	HARNESS	
M901	X-2625-485-1	MOTOR ASSY, T.T.	
M902	X-2625-171-2	MOTOR ASSY, SLED	
S901	1-570-771-11	SWITCH(LIMIT)	
SP1	1-544-577-11	SPEAKER (7.7CM)	

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ACCESSORIES & PACKING MATERIALS
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Ref. No.	Part No.	Description	Remark
⚠	1-465-608-11	ADAPTOR, AC (AC-64NA)(US, Canadian)	
⚠	1-465-833-11	ADAPTOR, AC (AC-64NEM)(AEP)	
⚠	1-466-880-11	ADAPTOR, AC (AC-64NN)(UK)	
⚠	1-467-775-11	ADAPTOR, AC (AC-64NB)(E, Tourist)	
⚠	1-569-007-11	ADAPTER, CONVERSION 2P(E, Tourist)	
	3-758-603-11	MANUAL, INSTRUCTION(SPANISH)(AEP, E)	
	3-758-603-21	MANUAL, INSTRUCTION(ENGLISH) (US, Canadian, AEP, UK, E)	
	3-758-603-31	MANUAL, INSTRUCTION(FRENCH) (Canadian, AEP)	
	3-758-603-41	MANUAL, INSTRUCTION(DUTCH)(AEP)	
	3-758-603-51	MANUAL, INSTRUCTION(SWEDISH)(AEP)	
	3-758-603-61	MANUAL, INSTRUCTION(PORTUGUESE)(AEP)	
	3-758-603-71	MANUAL, INSTRUCTION(GERMAN)(AEP)	
	3-758-603-81	MANUAL, INSTRUCTION(ITALIAN)(AEP)	
	3-758-845-41	MANUAL, INSTRUCTION(JAPANESE)(Tourist)	
	3-758-845-51	MANUAL, INSTRUCTION(CHINESE/FINNISH/KOREAN)(Tourist)	
	3-758-845-61	MANUAL, INSTRUCTION(ENGLISH)(Tourist)	
	3-758-845-71	MANUAL, INSTRUCTION(FRENCH)(Tourist)	
	3-758-845-81	MANUAL, INSTRUCTION(SPANISH)(Tourist)	
*	4-967-117-01	FRAME, INNER(US, Canadian)	
*	4-967-119-01	INDIVIDUAL CARTON(AEP, UK)	
*	4-967-120-01	INDIVIDUAL CARTON(E)	
*	4-967-121-01	FRAME, INNER(AEP, UK)	
*	4-967-122-01	INDIVIDUAL CARTON(US)	
*	4-967-124-01	FRAME, INNER(E)	
*	4-967-897-01	INDIVIDUAL CARTON(Tourist)	
*	4-967-899-01	INDIVIDUAL CARTON(Canadian)	
*	4-967-902-01	FRAME, INNER(Tourist)	
	8-953-011-90	HEADPHONE MDR-014B//0 SET(US)	

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HARDWARE LIST
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#1	7-621-255-40	SCREW +P 2X6
#2	7-627-852-18	SCREW, PRECISION +P 1.7X4 TYPE3
#3	7-627-852-17	+P 1.7X4
#5	7-685-104-19	SCREW (2X6), TAPPING (B)
#6	7-685-105-19	SCREW (2X8), TAPPING (B)

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

9-959-529-11

Sony Corporation
Consumer A&V Products Company
Personal A&V Products Div.

English
94E0284-1
Printed in Japan
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Published by Home A&V Products Div.
Quality Engineering Dept.